

PUCHER, Jozef, Dr farm.

Improved method of separation of sulfonamides with paper chromatography. Farm. polska 10 no.1:14-17 Ja '54.

l. Zaklad Chemii Farmaceutycznej Akademii Medycznej w Poznaniu.

Kierownik: prof. dr F. Adamantis.

(SULFONAMIDES, determination,

*chromatography)

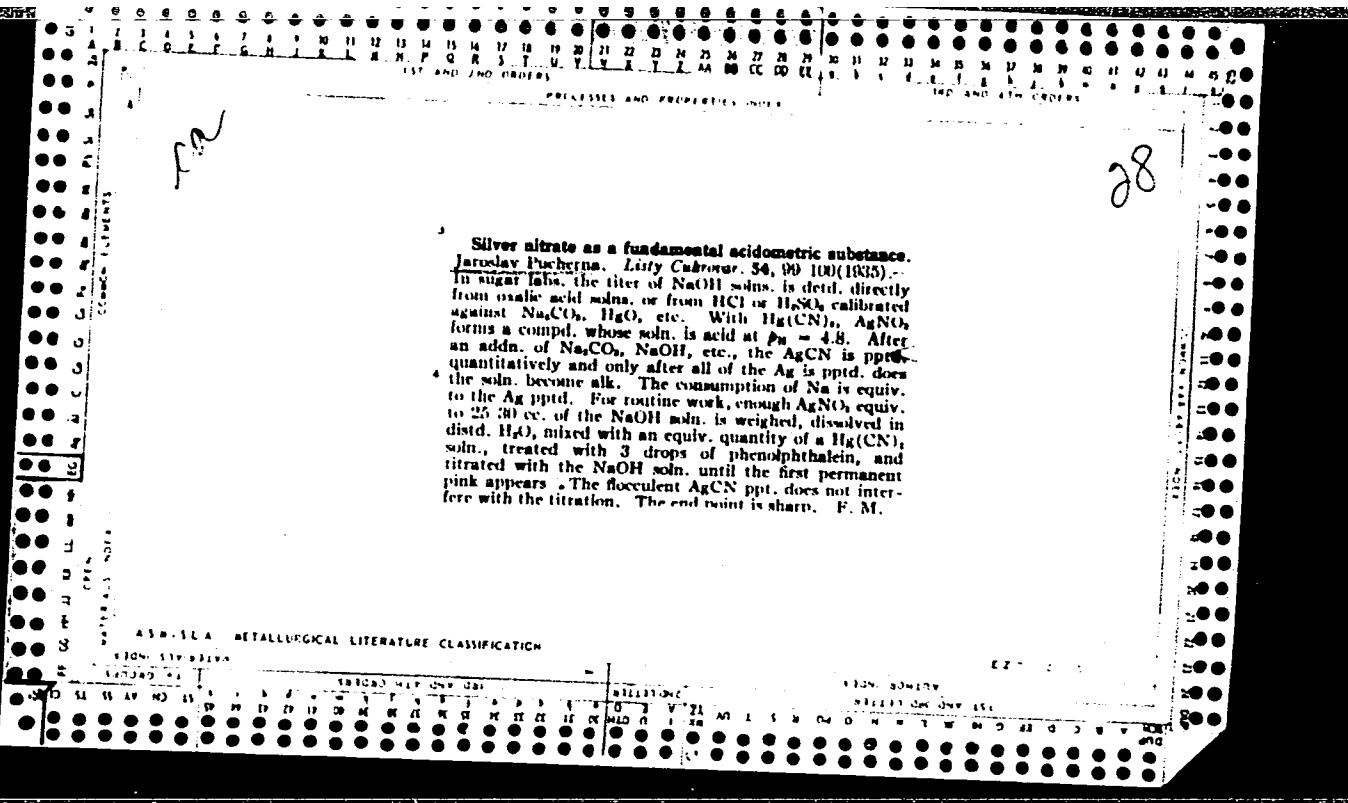
(CHROMATOGRAPHY,

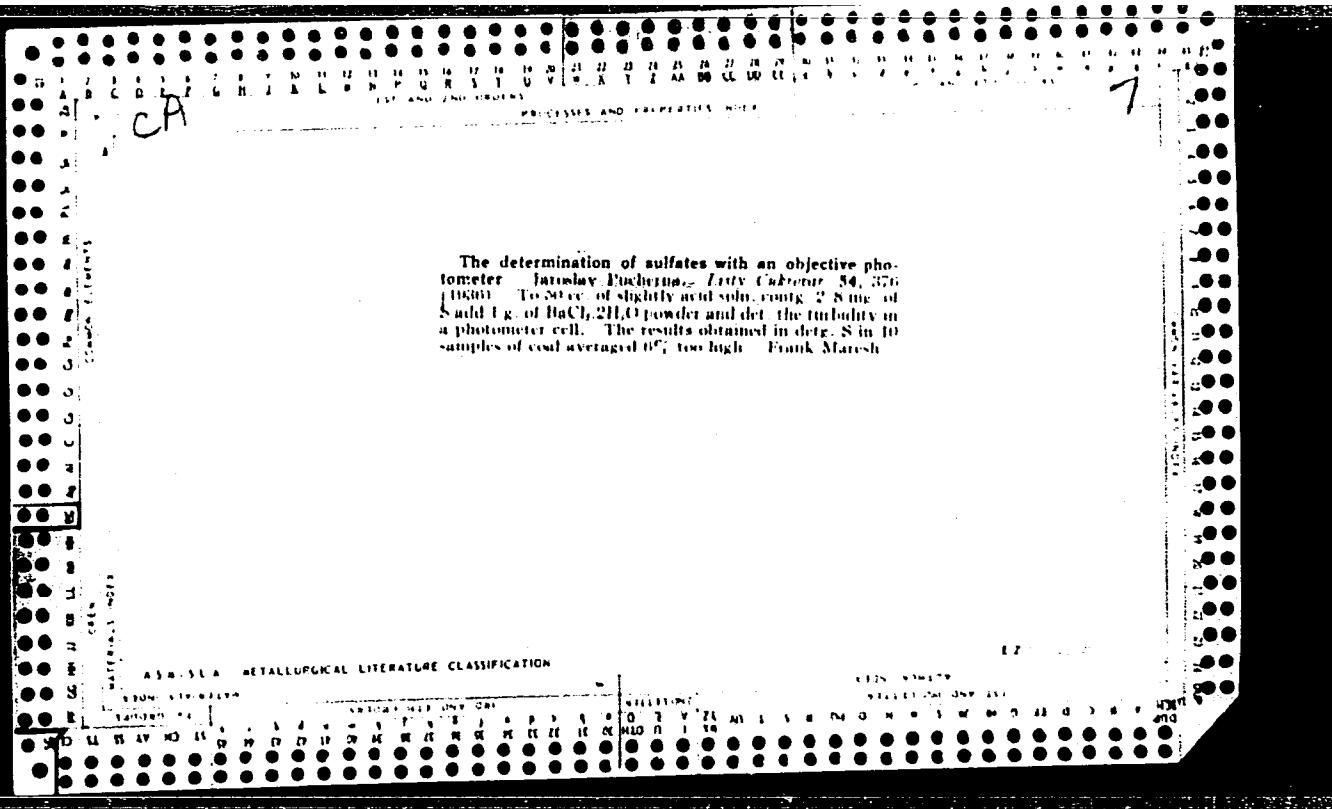
*of sulfonamides)

PUCHER, O.

Some problems with the construction of medium and high-voltage open
wires. p. 322.
(Villamossag, Vol. 4, No. 10/12, Oct./Dec. 1956)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 9, Sept 1957, Unclassified





PUCHERNA, J.

Forty years of the Sugar Engineering Research Institute.
Listy cukrovar 79 no. 12: 306-307 D '63.

PUCHERNA, J., inz., dr.

International conference on sugar processing chemistry and
technique in Lodz. Listy cukrovar 78 no.12:287-288 D '62.

PUCHERNA, Jaroslav, inz., dr.

International Commission for Uniform Methods of Sugar Analysis.
Listy cukrovar 79 no.1:ll-13 Ja '63.

S/185/60/005/002/015/022
D274/D304

AUTHORS: Val'ter, A.K., Zalyubovs'kyy, I.I., Klyucharyev,
O.P., Pasichnyk, M.V., Pucherov, M.M. and Chyrko,
B.I.

TITLE: Elastic scattering of protons with an energy of
6.8 MeV by isotopes of chromium, nickel and copper

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 5, no. 2, 1960,
270-272

TEXT: The angular distribution of elastically scattered protons
by the isotopes: Cr⁵², Cr⁵³, Ni⁵⁸, Ni⁶⁰, Ni⁶², Cu⁶³, Cu⁶⁵ is inves-
tigated. Up to now it has not been easy to formulate a theoretical
interpretation of the effects related to proton scattering; hence,
the importance of gathering and systemizing relevant data. The
protons with energy 6.8 ± 0.1 MeV were obtained on the cyclotron
of the Physics Institute of the UkrSSR. The proton scattering was
detected by a scintillation spectrometer. The measurements were
conducted from 20° to 160°, at angle intervals of 5°. The investi-

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Elastic scattering of protons...

S/185/60/005/002/015/022
D274/D304

gated mixtures contained at least 98% of the isotope, with the exception of Cr⁵³ whose proportion was 95%; they were in the form of thin (3 - 4 μ) plates. The results of the investigations are given in 2 figures, where the angular distribution is plotted as the ratio of an experimental differential cross-section to the Rutherford cross-section. The results show a noticeable shift in the position of the maxima and minima of the angular distributions. It is noted that such a shift is observed for small differences in the mass number of the scatterer nucleus. Thus the distribution curve for Cu⁶⁵ is shifted by 5° with respect to that of Cu⁶³. Such a result is in good agreement with data on proton scattering with 19.6 MeV energy. The form of the distribution curves for both Cu isotopes is entirely identical. The results for Cr isotopes are different. The differential cross-section in the region of large angles is considerably greater for Cr⁵² than for Cr⁵³. It is noted that it would be even much greater if the energy separation in the experiment would be higher. In the case of Ni isotopes, the distribution curve for Ni⁶² differs greatly from those for Ni⁶⁰. For Ni⁶² the cross section decreases considerably with increasing angles larger

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Elastic scattering of protons...

S/185/60/005/002/015/022
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than 120°. The angular distribution for Ni⁵⁸ and Ni⁶⁰ is in the main similar to that for natural isotope mixtures; this is not unexpected. The observed considerable difference in scattering by Ni isotopes, which may be related to various degree of absorption, is somewhat unexpected, though it does not contradict the results obtained by A.P. Klyucharev and N.Ya. Rutkevich (Ref. 3: ZhETF, 1, 1960). There are 2 figures and 5 references: 4 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: M.K. Brussel, I.H. Williams, Phys. Rev., 114, 525, 1959.

ASSOCIATION: Instytut fizyky AN USSR (Physics Institute AS UkrSSR) Fizyko-tehnichnyy instytut AN USSR (Physico-technical Institute AS UkrSSR)

SUBMITTED: November 19, 1959

Card 3/3

Barchuk, A.M.

BARCHUK, I.F.; GALKIN, Ye.M.; PASECHNIK, M.V.; PUCHEROV, N.N.

Resolving power of scintillation spectrometers. Izv.AN SSSR.Ser.
fiz.19 no.3:352-354 My-Je '55. (MIRA 9:1)

1.Institut fiziki Akademii nauk USSR.
(Moscow--Spectrum analysis--Congresses)

KCVTUN, V. A., PACHOKHIN, M. V. and PUCHEROV, N. N.

"Elastic Scattering of Protons by Al²⁷, Cu, Bi²⁰⁹ Nuclei,"

Inst. for Physics, Acad. Sci. Ukr SSR

paper submitted at the A-U Conf. on Nuclear Reactions in "medium and Low Energy Physics, Moscow, 19-27 Nov 57.

"APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001343520008-5

PASECHNIK, M. V., PUCHEROV, N. N. and TOTSKIY, I. A. (Moscow USSR)

"Les Sections Efficaces des Diffusion des Nucleons et le modele Optique du Noyau.
report presented at the Intl. Congress for Nuclear Interactions (Low Energy) and
Nuclear Structure (Intl. Union Pure and Applied Physics). Paris, 7-12 July 1958.

APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001343520008-5"

PUCHEROV, N.N. [Pucherov, M.M.]

Angular distribution of elastically scattered 6.8 Mev protons
by nuclei with Z 26 - 30. Ukr. fiz. zhur. 4 no.3:318-321 My-Je
'59. (MIRA 13:2)

1.Institut fiziki AN USSR.
(Protons--Scattering)

PUCHTROV, N. N., Cand Phys-Math Sci (diss) -- "Investigation of angular dispersions in the diffusion of protons with energies of 6.8 MEV on atomic nuclei". Kiev, 1960. 8 pp (Joint Scientific Council of the Insts of Phys, Math and Metallophys of the Acad Sci Ukr SSR), 150 copies (KL, No 14, 1960, 126)

S/048/60/024/007/006/011
B019/B060

AUTHORS: Pasechnik, M. V., Pucherov, N. N., Chirko, V. I.

TITLE: Angular Distribution of Protons in the Inelastically
Scattered by Chromium and Nickel Isotopes

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,
Vol. 24, No. 7, pp. 874-876

TEXT: This is the reproduction of a lecture delivered at the 10th All-
Union Conference on Nuclear Spectroscopy held in Moscow from January 19
to 27, 1960. Investigations of the inelastic scattering of 6.8-Mev protons
on chromium and nickel isotopes were conducted with the cyclotron belonging
to the institute mentioned under Association. The target was placed in the
center of the reaction chamber at an angle of 45° to the incident beam.
The proton scattering was measured with a scintillation counter. The method
applied has already been described in a previous paper (Ref. 1). Proton
groups belonging to the first excited nuclear states of the Cr⁵² and Ni⁵⁸
isotopes were satisfactorily separated by the arrangement employed. The
measurement of the differential partial cross section was made possible

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Angular Distribution of Protons in the
Inelastically Scattered by Chromium and
Nickel Isotopes

S/048/60/024/007/006/011
B019/B060

by the use of targets concentrated to at least 95%. Fig. 1 is a graph depicting the energy spectrum of the protons scattered by Cr⁵², while Figs. 2 and 3 show the angular distributions of the protons scattered by Cr⁵² and Ni⁵⁸. The nuclei were in the first excited state (1.45 Mev, 2⁺). An analysis of the angular distribution revealed that at energies near 7 Mev, inelastic scattering gives rise to a compound nucleus. Estimates of the differential partial cross section yielded 30 millibarn steradian for Ni⁶², 20 millibarn steradian for Ni⁶⁰, and 10 millibarn steradian for Ni⁵⁸. These cross sections belong to the excited levels 1.45 Mev (Ni⁵⁸), 1.33 Mev (Ni⁶⁰), and 1.17 Mev (Ni⁶²) (estimates made in the angular region between 140 and 160°). There are 3 figures and 5 references: 2 Soviet, 2 US, and 1 Japanese.

ASSOCIATION: Institut fiziki Akademii nauk USSR
(Institute of Physics of the Academy of Sciences UkrSSR)

Card 2/2

PULCHERON, R.N.

REF ID: A-650		DATE: 3/05/00/05/05/008/050
AUTHORS:		500/5070
PERIODICAL:		JOURNAL: <i>Angular Distributions of 60-KeV Proton Scattering by Chlorine, Nitro-, and Copper Isotopes</i>
PERIODICAL:		Author(s): Taltsev, A. E., Zalivchansky, I. I., Klyuchnikov, A. P., Paschenko, M. T., Pustovoit, V. N., Chirkov, L. I.
TEXT:		The authors have determined the angular distribution of 60-KeV protons elastically scattered by $\text{^{35}Cl}$, $\text{^{37}Cl}$, $\text{^{39}Ar}$, and $\text{^{63}Cu}$ nuclei. The measurements were obtained from the operation of the Institute of High Energy Physics of the USSR Academy of Sciences. The neutrons were recorded by a scintillation spectrometer which consisted of a GIC(1) crystal, a photomultiplier of the type AMI-27 (ZEM-29), and a 50-channel pulse-height analyzer of the type AMAL-1 (AMAL-1). Measurements were made between 20° and 160° every 5°. The angles being measured with an accuracy of 0.5°, depending on the thickness of the target, the energy resolution of the scintillation spectrometer was 4-6%.
CARD 1/5		
CARD 2/5		
elasticity		
<p>The energy spectrum of the scattered protons was taken for each angle of measurement. The differential scattering cross section was determined in the center-of-mass system. Fine files of 5-5° at different angles in the target were studied for a variety of the compositions of the energy resolution of the scintillation spectrometer and different materials of the group of elastically scattered protons from the first excited states of the target nuclei. One of the energy spectra ($\text{^{35}Cl}$) is shown in Fig. 1. In this spectrum below the first peak ($\approx 10^4$ sec.) there is a second, smaller group of protons scattered from the second group of scattered protons. The proton released from the second group of the lowest levels, 0.14 and 0.17 sec., of the $\text{^{35}Cl}$ nucleus can make a significant contribution to the angular distribution, particularly for large angles. As far as the angular distribution of elastically scattered protons is concerned, the angular distribution of the first excited state of $\text{^{35}Cl}$ and $\text{^{37}Cl}$ are shown in Fig. 2. The first excited states of $\text{^{35}Cl}$ and $\text{^{37}Cl}$ are at 1.41, 1.33, and 1.17 Mev, respectively. The proton groups corresponding to these levels can easily be separated from the group of</p>		
X		

84384

S/056/60/039/004/002/048
B004/B070

24.6520

AUTHORS: Pasechnik, M. V., Pucherov, N. N., Orlenko, B. F.,
Prokopenko, V. S.

TITLE: Polarization of 6.8-Mev Protons on Scattering From Carbon ¹⁹

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,
Vol. 39, No. 4(10), pp. 915-916

TEXT: The purpose of the present work was to study the spin - orbit interaction in the elastic scattering of 6.8-Mev protons from carbon, and to examine the suitability of carbon as the second scatterer in polarizing instruments. The carbon target consisted of a polystyrene film filled with graphite powder. The thickness of the target was of the order of 10 mg/cm^2 . The doubly scattered protons (second scattering angle = 45°) were recorded by means of 200μ thick $\text{R}-1$ ($\text{Ya}-1$) nuclear photoplates. The data for the asymmetry of distribution observed experimentally after the second scattering are given in a Table. The considerable thickness of the target prevented the use of known data on the polarization of

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SUBMITTED: April 15, 1960

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001343520008-5"

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S/056/60/039/004/002/048
B004/B070

Polarization of 6.8-Mev Protons on
Scattering From Carbon

protons at 45°. For this reason, only qualitative conclusions are drawn: significant polarization of 6.8-Mev protons on scattering from carbon, suitability of carbon as an analyzer in the study of polarization in this energy range. The angular dependence of polarization on scattering from carbon found by the authors agrees well with data for aluminum (Ref. 3). There are 1 table and 4 references: 1 Soviet, 2 US, and 1 French.

ASSOCIATION: Institut fiziki Akademii nauk SSSR (Institute of Physics
of the Academy of Sciences of USSR)

SUBMITTED: April 15, 1960

~~CONFIDENTIAL~~ M.H. Mandelstam, Moscow

problems in nuclear physics session in Kiev, USSR 35
(MIR 23-6)
1988-89 46 105.

J. 10317-66 EWT(m) DIAAP

ACC NR: AP5022138

SOURCE CODE: UR/0030/65/000/008/0087/0089

AUTHOR: Pucherov, N. N. (Candidate of physico-mathematical sciences)

ORG: none

TITLE: Problems of nuclear physics [Joint Session Nuclear Physics Division AN SSSR
and Physics Division AN UkrSSR, Kiev, May 17-19, 1965]

SOURCE: AN SSSR. Vestnik, no. 8, 1965, 87-89

TOPIC TAGS: nuclear physics conference, nuclear structure, nuclear energy level,
nuclear interaction, nuclear model, deuteron reaction, proton scattering, electron
scattering, elastic scattering, inelastic scattering, scattering cross sectionABSTRACT: The joint session of the Nuclear Physics Division, AN SSSR and the Physics
Division, AN UkrSSR convened on May 17-19, 1965 to discuss a wide variety of prob-
lems in classical nuclear physics. The session was opened by V. I. Veksler, acade-
mician and secretary of the Nuclear Physics Division AN SSSR. A review of the
theoretical problem and experimental results of nuclear structure, shape, deform-
ability, etc, was given by A. S. Davydov. V. G. Solov'yev reviewed the use of
Bogolyubov's method for computing the energy levels of the nucleus. A large number
of papers dealt with nuclear reactions. V. V. Balashov, V. G. Neudachin, and Yu. F.
Smirnov discussed the role of nucleon associations in reactions with light nuclei.
Ye. V. Inopin showed that consideration of the diffusivity of the nuclear surface

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2

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ACC NR: AP5022138

17

leads to formulas in excellent agreement with experiment for scattering cross sections of complex nuclei using diffraction theory. V. V. Komarov and A. M. Popova presented a theory explaining the interaction of deuterons with nuclei. O. F. Nemts, A. T. Rudchik, L. S. Sokolov, and V. V. Tokarevskiy discussed the application of the optical model of the nucleus for describing the interaction of complex particles with nuclei. Information about the surface structure of the nucleus as obtained from studies of deuteron stripping in the nuclear field was discussed by O. F. Nemts, L. V. Sokolov and B. G. Struzhko. The results of systematic investigations of elastic scattering of protons at energies below the nuclear Coulomb barrier were reported by A. P. Klyucharev and V. Ya. Golovnya. V. P. Vertebnyy discussed neutron symmetries of various isotopes. Yu. V. Adamchuk, S. S. Moskalev, and G. V. Muradyan presented data for the total cross sections of thermal neutrons for even-even isotopes of tin. Inelastic scattering of fast electrons from nuclei was discussed by A. G. Sitenko, while N. G. Afanas'yev analyzed experimental results for elastic scattering. A theoretical discussion of double proton radioactivity was given by V. I. Gol'danskiy. A. F. Tulinov reported on a study of nuclear reactions on single crystals, which generated great interest.

SUB CODE: /8/ SUBM DATE: none

Card 2/2

L 44039-66 EWT(m)/T/EWP(t)/ETI IJP(c) JD/HW
ACC NR: AP6032231 SOURCE CODE: UR/0367/66/003/005/0842/0848

AUTHOR: Kashuba, I. Ye.; Kozin, B. G.; Pasechnik, M. V.; Puchakov, N. N.; Chirko, V. I.

ORG: Institute of Physics, AN UkrSSR (Institut fiziki AN UkrSSR)

TITLE: Analysis of the elastic scattering of 6.9 MeV protons by Ni isotopes and the
nuclear optical model 79 27 39 R

SOURCE: Yadernaya fizika, v. 3, no. 5, 1966, 842-848

TOPIC TAGS: elastic scattering, proton polarization

ABSTRACT: The differential cross-sections and polarizations of 6.9 MeV protons,
elastically scattered by Ni isotopes, were calculated on the basis of the optical
model. It is shown that the model parameters giving the best agreement between
theory and experiment differ significantly for various NI isotopes. An uncertainty
exists in the choice of the depth and diffusion parameters b and W in the imaginary
part of the potential for $W_b = \text{const}$. It is shown that the uncertainty in the choice
of the optimal set of optical model parameters is significantly decreased if the
analysis of the data on elastic scattering takes the angular dependence of the
polarization as well as the differential cross-section into account. The authors
thank the staff of the Institute of Cybernetics AN UkrSSR for making possible the
calculations of the electronic computers as well as for assuring the operation of
the machines. Orig. art. has: 3 figures, 7 formulas and 1 table. [Based on authors'
Eng. abst.] [JPRS: 36,712]

SUB CODE: 20 / SUBM DATE: 26Feb65 / ORIG REF: 005 / OTH REF: 003

Card 1/1 blg 0919 1256

PASECHNIK, M. V.; PUCHEROV, N. N.; CHIRKO, V. I., Kiev

"Isotopic effects and polarization in the elastic scattering of protons."

report submitted for Intl Conf on Low & Medium Energies Nuclear Physics,
Paris, 2-8 Jul 64.

KLYUCHAREV, A.P. [Kliucharev, O.P.]; ORLENKO, B.F.; PROKOPENKO, V.S.; PUCHEHOV,
N.N. [Pucherov, M.M.]

Scattering of 6.9 Mev. protons by Mg^{24} . Ukr. fiz. zhur. 7 no.9:1028
S '62. (MIRA 15:12)

1. Institut fiziki AN UkrSSR, Kiyev.
(Protons—Scattering) (Magnesium)

VAL'TER, A. K., akademik; KLYUCHAREV, A. P.; LUTSIK, V. A.; ORLENKO, B. F.;
PASECHNIK, M. V., akademik; PROKOPENKO, V. S.; PUCHEROV, N. N.

Elastic scattering of 6.9 Mev. protons by chromium and zinc
isotopes. Dokl. AN SSSR 147 no. 6:1325-1327 D '62.
(MIRA 16:1)

1. Institut fiziki AN UkrSSR i Fiziko-tehnicheskiy institut
AN UkrSSR. 2. AN UkrSSR (for Val'ter, Pasechnik).

(Protons—Scattering) (Chromium—Isotopes)
(Zinc—Isotopes)

S/089/63/014/002/004/019
B102/B186

AUTHORS: Nemets, O. F., Pasechnik, M. V., Pucherov, N. N.

TITLE: Investigation of nuclear reactions at the cyclotron of the
Institut fiziki AN USSR (Institute of Physics AS UkrSSR)

PERIODICAL: Atomnaya energiya, v. 14, no. 2, 1963, 159 - 170

TEXT: This paper gives a review of the investigations of the nuclear reactions carried out at the cyclotron of the Institute of Physics AS UkrSSR during the years 1957 - 1961. Pertinent material assembled by the research team was also published in various journals. Mention is made of the investigations of the elastic and inelastic scattering of 6.8-Mev protons and 13.6-Mev deuterons from different metals of natural isotopic composition as well as from separated isotopes. Furthermore the energy and angular distributions of the protons in deuteron stripping reactions, etc. were studied. The experimental material is clearly presented in tabular form. There are 6 figures, 3 tables, and 50 references. ✓

SUBMITTED: July 19, 1962

Card 1/1

24,6600

15366
S/056/63/044/001/028/067
B104/B144

AUTHORS: Prokopenko, V. S., Puchakov, N. N.

TITLE: Inelastic scattering of 6.9 Mev protons by chromium isotopes

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44,
no. 1, 1963, 148-150

TEXT: Free, thin Cr^{50,52,54} films (enriched to 87.7, 99.0, and 78.6% respectively) were used as targets. The proton energy was (6.9±0.05) Mev, a CsI(Tl) scintillation spectrometer was used as detector, and the energy spectrum was taken by a 50-channel pulse-height analyzer. The absolute value of the differential cross section of inelastic scattering was fixed on the assumption that the elastic scattering through 20° was a pure Coulomb scattering. Measurements were made for scattering angles between 50 and 160°. The distribution (nearly symmetrical with respect to 90°) of inelastically scattered protons (protons related to the excitation of the first excited state of the three isotopes) shows that the formation of a compound nucleus plays an important part in the inelastic scattering of

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Inelastic scattering of 6.9 Mev ...

S/056/63/044/001/028/067
B104/B144

protons in the energy range investigated. The small deviations from this symmetry are attributed to direct interaction. The absolute value of the differential cross section decreases, on the average, upon transition to heavier Cr isotopes. There is 1 figure.

ASSOCIATION: Institut fiziki Akademii nauk Ukrainskoy SSR (Institute of Physics of the Academy of Sciences Ukrainskaya SSR)

SUBMITTED: August 27, 1962

Card 2/2

VAL'TER, A.K.; ZALYUBOVSKIY, I.I.; KLYUCHAREV, A.P.; LUTSIK, V.A.; ORLENKO,
B.F.; PASECHNIK, M.V.; PROKOPENKO, V.S.; PUCHEROV, N.N.

Angular distribution of 6.8 mev. protons elastically scattered on
nickel and zirconium isotopes. Zhur.eksp.i teor.fiz. 41 no.1:71-
74 J1 '61. (MIRA 14:7)

1. Institut fiziki AN Ukrainskoy SSR i Fiziko-tehnicheskiy institut
AN Ukrainskoy SSR.
(Protons—Scattering) (Nickel—Isotopes) (Zirconium—Isotopes)

35091
S/638/61/001/000/013/056
B105/B110

24.6600

AUTHORS: Pasechnik, M. V., Puchakov, N. N., Totskiy, I. A., Chirko, V. I.

TITLE: Dispersion of medium-energy nucleons and the optical nuclear model

SOURCE: Tashkentskaya konferentsiya po mirnymy ispol'zovaniyu atomnoy energii. Tashkent, 1959. Trudy. v. 1. Tashkent, 1961, 103 - 106

TEXT: The authors studied the angular distributions of elastically scattered 6.8-Mev protons and 2.8-Mev neutrons. The protons were obtained from the cyclotron of the Institut fiziki AN USSR (Institute of Physics AS UkrSSR). The scattered protons were recorded with a scintillation spectrometer consisting of a CsI(Tl) crystal, an ФЭУ-29 (FEU-29) photomultiplier and an electronic recorder. Due to the energetic resolution of the instrument (3.5 - 4%) the group of elastically scattered protons can be separated from that of the inelastically scattered protons. The angular distribution of elastically scattered protons was measured between 20 and 160°. Bi, Pb, Sn, Cd, Ag, Zn, Cu, Ni, Co, Fe, or Al were used as targets. Nuclei whose Coulomb barrier allowed the incident protons to

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S/638/61/001/000/013/056
B105/B110

Dispersion of medium-energy nucleons ...

enter the range of action of the nuclear forces showed deviations of the experimental cross section from the Rutherford cross section (Fig. 1). The reaction D(d,n)He³ served as neutron source (bombardment of heavy ice by 130-kev deuterons). The scattered neutrons were measured in an 11-atm methane chamber with collecting electrode (25 - 105°). It was found that the angular distributions of elastically scattered neutrons strongly differ also for elements with approximately equal atomic weight. A variant of the optical model with diffuse surface is suggested, with a potential $V(r) = \{1 + \exp[(r-R)/a]\}(V + iW)$, where V, W, R, a are the model parameters according to R. D. Woods, D. S. Saxon (Phys. Rev., 95, 577, 1954). The results of calculations on the basis of this model were in good agreement with the experimental data (Fig. 3). Experiments on proton scattering from separated isotopes (Ni⁵⁸, Ni⁶⁰, Ni⁶², Cr⁵², Cr⁵³) made together with A. P. Klyucharevskiy and I. V. Zalyubovskiy also gave different angular distributions which are explained by the shell structure of the nucleus. To gather experimental material further experiments of this kind are being conducted in the authors' laboratory. There are 3 figures and 11 references: 4 Soviet and 7 non-Soviet. The four references to English-language publications read as follows: Bromly, D. A.,

Card 2/4

X

Dispersion of medium-energy nucleons ...

33091
S/638/61/001/000/013/056
B105/B110

Wall, N. S. Phys. Rev., 102, 1560, 1956; Waldorf, W. F., Wall, N. S. Phys. Rev., 107, 1602, 1957. Glassgold, A. E., Cheston, W. B., Stein, M. L., Schuldert, S. B., Erickson, G. W. Phys. Rev., 105, 1207, 1957. Jastrow, R., Harris, J. Doklad na Vtoroy konferentsii po mirnomu ispol'zovaniyu atomnoy energii (Report at the Second Conference on the Peaceful Uses of Atomic Energy) Geneva, 1958.

ASSOCIATION: Institut yadernoy fiziki AN USSR (Institute of Nuclear Physics AS UkrSSR)

Fig. 1: Angular distribution of elastically scattered 6.8-Mev protons.
Legend: abscissa: θ^o , c.m.s; ordinate $\sigma(\theta)_{\text{exp}}/\sigma(\theta)_{\text{Rutherford}}$.

Fig. 3: angular distribution of neutrons elastically scattered from Fe, Sn, and Bi. Dashed lines: experiment, full lines: calculation.
Legend: abscissa: θ^o_{lab} ; ordinate: $\sigma(\theta)$ barn/sterad.

Card 3/4

X

VAL'TER, A.K.; ZALYUBOVSKIY, I.I.; KLYUCHAREV, A.P. [Kliuchariev, O.P.];
PASECHNIK, M.V. [Pasichnyk, M.V.], PUCHEROV, N.N. [Pucherov, M.M.]
CHIRKO, V.I.

Elastic scattering of 6.8 Mev \bar{c} protons on isotopes of chromium,
nickel and copper. Ukr. fiz. zhur. 5 no.2:270-272 Mr-Ap '60.
(MIRA 13:12)

1. Institut fiziki AN USSR i Fiziko-tehnicheskiy institut AN USSR.
(Protons--Scattering)

PASECHNIK, M.V.; PUCHEROV, N.N.; ORLENKO, B.F.; PROKOPENKO, V.S.

Polarization of 6.8 Mev protons scattered on carbon. Zhur. eksp.
i teor. fiz. 39 no.4:915-916 O '60. (MIRA 13:11)

1. Institut fiziki Akademii nauk SSSR.
(Protons—Scattering)

PUCHESHKIN, G.(Moskva); MASIS, M., pensioner (Moskva);

Looms for weaving at home. Prom.koop.no.3:25-26 Mr '57.
(MIRA 10:4)

1. Chlen arteli "Mostrikovyaz'" (for Pucheshkin) 2. Byvshiy
tekhnoruk arteli "Mostrikovyaz'" (for Masis).
(Looms)

PUCHIK, K.

If you like your work, it's a simple matter. Kryl.rod. 12 no.5:
8-9 Jl '61. (MIRA 14:7)

1. Nachal'nik Saratovskogo aerokluba.
(Saratov--Aeronautical societies)

PUCHIK, K.F.; FIMUSHKIN, V.N.; SOKOLOV, P.V.; SAFRONOV, S.I., Geroy Sovetskogo Soyuza; NOVIKOV, N.I.; FOMIN, S.Ye., tekhnik samoleta

We're proud of your achievement, IUrii! Kryl.rod. 12 no.5:2-3
My '61. (MIRA 14:7)

1. Nachal'nik Saratovskogo aerokluba (for Puchik). 2. Zamestitel' nachal'nika po politicheskoy chasti Saratovskogo aerokluba (for Fimushkin).

(Gagrin, IUrii Alekseevich, 1934-)

KAPELINSKIY, Yu.N.; POLYANIN, D.V.; ZOTOV, G.M.; IVANOV, I.D.; SERGEYEV,
Yu.A.; MENCHINSKIY, Ye.A.; KOSTYUKHIN, D.I.; DUDUKIN, A.N.;
IVANOV, A.S.; FINOGENOV, V.P.; ZAKHMATOV, M.I.; SOLODIKIN, R.G.;
DUSHEN'KIN, V.N.; BOGDANOV, O.S.; SEROVA, L.V.; GONCHAROV, A.N.;
LYUBSKIY, M.S.; PUCHIK, Ye.P. [deceased]; KAMENSKIY, N.N.;
SABEL'NIKOV, L.V.; GERCHIKOVA, I.N.; FEDOROV, B.A.; KARAVAYEV,
A.P.; KARPOV, L.N.; VARTUMYAN, E.L.; SHIPOV, Yu.P.; ROGOV, V.V.;
BOGDANOV, I.I.; VLADIMIRSKIY, L.A.; LEBEDEV, B.I.; ANAN'YEV, P.G.;
TRINICH, F.A.; GOLOVIN, Yu.M.; MATYUKHIN, I.S.; SEYFUL'MULYUKOV,
A.M.; SHIL'DKRUT, V.A.; ALEKSEYEV, A.F.; BORISENKO, A.P.; CHURAKOV,
V.P.; SHASTITKO, V.M.; GERUS, V.G.; ORLOV, N.V., red.; KAPELINSKIY,
Yu.N., red.; GORYUNOV, V.P., red. V redaktyrovaniyu primimali
uchastiye: BELOSHAPKIN, D.K., red.; GEORGIYEV, Ye.S., red.; KOSAREV,
Ye.A., red.; PANKIN, M.S., red.; PICHUGIN, B.M., red.; SHKARENKOVA,
Yu.S., red.; MAKAROV, V., red.; BORISOVA, K., red.; CHEPELEVA, O.,
tekhn.red.

[The economy of capitalistic countries in 1958] Ekonomika kapita-
listicheskikh stran v 1958 godu. Pod red. N.V.Orlova, IU.N.Kape-
linskogo, V.P.Goriunova. Moskva, Izd-vo sotsial'no-ekon.lit-ry,
1959. 609 p. (MIRA 12:12)

1. Moscow. Nauchno-issledovatel'skiy kon'yunktturnyy institut.
(Economic conditions)

PUCHIK, YE. P.

DECEASED

SEE ILC

ECONOMICS

VYSOTSKIY, A. A.; VINOGRADOV, V. I.; ZOBACHEV, Yu. Ye.; PUCHKIN, A. V.

Preventing the corrosion of cooling jackets on marine
internal combustion engines. Inform.sbor.TSNIIMF no. 87
Tekh.ekspl. mor. flota no. 20:57-82 '62. (MIRA 17:5)

(A)

2

The initiating activity of tertiary hydroperoxides and their effect on the degree of polymerization. F. I. Vasil'chenko, V. A. Puchkin, and K. S. Grigor'eva (Lvov Polytech. Inst.). Doklady Akad. Nauk S.S.R. 75, 547-50 (1950).—Rates of polymerization of PhCH₂:CH₃ in the liquid phase were measured by dilatometry in the presence of Me₂COOH (I), PhMe₂COOH (II), Ph₂MeCOOH (III), and Ph₃COOH (IV) at different concns. *c* of the hydroperoxide. With I, II, and III, the rates were const., whereas with IV the rate was const. during the 1st 5 hrs., then fell and remained at the const. lower value for another 5 hrs. The rates *r* (in M/l./hr.), at *c* = 0.00566, 0.0566, 0.1132 M/l., were I at 70°, 0.0600, 0.180, 0.200; at 85°, 0.222, 0.500, 0.600; at 100°, 0.653, 1.850, 1.900; II at 70°, 0.113, 0.278, 0.378; at 85°, 0.337, 0.975, 1.275; at 100°, 0.950, 3.85, 5.100; III at 70°, 0.185, 0.650, —; at 85°, 0.433, 1.655, —; at 100°, 1.275, then instantaneous; IV (1st and 2nd 5-hr. period) at 70°, 0.172 and 0.160, 0.314 and 0.362, 0.290 and 0.208; at 85°, 0.392 and 0.305, 0.460 and 0.383, 0.322 and 0.283; at 100° (1st period only) 0.700, 0.775, 0.697. The initiating activity increases in the order I, II, III, i.e. in the same order as the rates of thermal decomps. (C.A. 43, 2016a). Introduction of a Ph group into the tertiary radical increases the initiating activity; introduction of a Me group decreases it. The behavior of IV is explained by formation of a free PhC radical, which is confirmed by the appearance of the characteristic orange-yellow color. The mean mol. wts. *M*, detd. by viscometry, at *c* = 0.00566, 0.0566, 0.1132, were I at 70°, 10⁻⁴ *M* = 8.3, 4.7, 2.9 (without initiator 13.7); at 85°, 7.2, 3.7, 2.6 (without, 10.7); at 100°, 6.9, 3.6, 3.8 (without, 9.5); II at 70°, 7.4, 2.9, 2.1; at 100°, 5.3, 2.0, —; III at 70°, 5.9, 1.8, —; at 100°, 4.2, 1.1, —; IV at 85°, 5.0, 3.2, —. The product *Mr*, at equal *c* and temp., increases with increasing initiating capacity of the hydroperoxide; i.e. at equal *r* and temp., *M* increases with the initiating capacity. Consequently, more active hydroperoxide initiators produce polymers of a higher degree of polymerization. N. T.

L 36283-66 EWT(m)/EWP(j)/T RM/WW/JWD

ACC NR: AP5027232

(A)

SOURCE CODE: UR/0020/65/164/006/1335/1338

AUTHOR: Yurzhenko, T. I.; Puchin, V. A.; Voronov, S. A.

ORG: L'vov Polytechnical Institute (L'vovskiy politekhnicheskiy institut)

TITLE: Polymerization and copolymerization of some peroxide monomers

SOURCE: AN SSSR. Doklady, v. 164, no. 6, 1965, 1335-1338

TOPIC TAGS: polymerization, copolymerization, monomer, peroxide, resin

ABSTRACT: The polymerization and copolymerization of alkyl peresters (tert-butylperacrylate, tert-amylperacrylate, dimethylethynylmethyl peracrylate, p-nitrocumylperacrylate, and tert-butylpermethacrylate) with nonperoxide vinyl monomers was studied to extend their use for the preparation of graft and modified polymers. The results of polymerizations at different temperatures and with different concentrations of peresters are given in Table 1. The optimal temperatures of polymerization extended from 0-50°C; tert-butylpermethacrylate copolymerized with styrene by exponential law, while the polymer formed was less stable than the monomer. The copolymerization of the remaining peresters proceeded as a zero-order reaction. The copolymerization of tert-butylperacrylate with methyl methacrylate proceeded much faster than with styrene and its rate increased with the concentration of the perester. Analogous reactions of cumyl peracrylates $H_2C:ch_c(O)OOC(CH_3)_2 \oplus R$ ($R=H$, Cl, or Br) and cumylpermethacrylates

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UDC: 6780015

L 36283-66

ACC NR: AP5027232

Composition of mixture	temp. in °C	concn. of perester (mole%)	rate of polymer- ization (%/hr)	degree of polymer- ization %	intrinsic viscosity	molec. wt.
St V + I	40	1	0.4	26.7	0.712	168 000
		2	0.5	38.8	0.428	83 000
		5	0.55	42.5	0.293	29 000
		10	0.55	41.0	0.139	17 000
	50	1	1.0	41.1	0.810	135 000
		2	1.1	42.2	0.403	76 000
		5	1.5	42.0	0.239	36 700
		10	1.25	42.6	0.113	18 000
		25	1.01	42.7	0.093	9 000
		60	2	3.1	45.8	0.406
		5	4.1	41.1	0.193	25 500
		10	3.8	37.7	0.126	13 200
St Cn. + II	60	1	1.0	49.8	0.530	111 000
		2	1.2	42.0	0.196	77 000
		5	1.6	41.7	0.105	29 800
		10	1.4	41.8	0.125	15 000
St I. + III	50	2	1.99	40.0	0.1804	24 000
		5	3.3	39.2	0.0488	8000
		10	4.45	39.0	0.0532	5200
St + IV	50	1	0.75	37.1	0.145	18 000
		2	0.8	39.9	0.101	11 000
		5	0.9	43.0	0.055	4 800
St Cn. + V	50	1	3.0	49.0	0.247	39 000
		2	4.4	48.9	0.150	19 000
		5	5.3	46.5	0.0924	11 000
		10	7.4	59.2	0.093	9 500
MM + I	40	1	6.8	27.3	0.081	762 800
		2	11.7	23.4	1.250	1 074 000
		5	19.7	37.4	0.602	376 700
		10	5.3	26.7	0.287	131 230

Card 2/3

L 36283-66

ACC NR: AP5027232

$\text{H}_2\text{C}:\text{C}(\text{CH}_3)\text{C}(0)\text{OC}(\text{CH}_3)_2 \text{R}$ ($\text{R}=\text{H}$, Cl, Br, or NO_2) proceeded very slowly and gave low-molecular colored polymers. Apparently, this is due to a heterolytic decomposition. The paper was presented by Academician V. A. Kargin in 6 Apr 65. Orig. art. has: 1 fig. and 2 tables.

Table 1. Characteristics of copolymerization of peresters and their polymers

I - tert-butylperacrylate, II - tert-amylperacrylate, III - dimethylethynyl-methylperacrylate, IV - p-nitrocumylperacrylate, V - tert-butylpermethacrylate, St - styrene, MM - methyl methacrylate

SUB CODE: 11/ SUBM DATE: 06Apr65/ ORIG REF: 010/ OTH REF: 009

Card 3/3 4/S

YURZHENKO, T.I.; FUCHIN, V.A.; VORONOV, S.A.

Polymerization and copolymerization of some peroxides monomers.
Dokl. AN SSSR 164 no.6:1335-1338 O '65.

(MIRA 18:10)

1. L'vovskiy politekhnicheskiy institut. Submitted April 6, 1965.

SERGEYEVA, A.N.; PUCHIN, V.A.; MIKHALEVICH, K.N.

Oxidation-reduction reactions of tertiary hydroperoxides with
complex molybdenum salts. Zhur. ob. khim. 31 no.3:871-874
Mr '61. (MIRA 14:3)

1. L'vovskiy politekhnicheskiy institut.
(Molybdenum compounds) (Hydroperoxides)

PUCHIN, V. A.

Maths ✓ Oxidation-reduction polymerization. T. I. Yurzhenko,
V. A. Puchin, and K. N. Mikhanov. U.S.S.R. 104,250.
Dec. 25, 1956. Unsatd. compds. are emulsion-polymerized
in the presence of solns. of Mo-CN complexes. The poly-
merization is continued until the intensely colored ac-
tivators change color. M. Horsch

PM MR

Puchin, V.A.

Dilatometer method of investigation of polymerization of
en emulsion. T. I. Yurzhenko and V. A. Puchin. (Politech.
Inst., Lvov). Zavodskaya Lab. 21, 205-7 (1958).—Dila-
tometers with magnetic stirring are described for the detn. of
polymerization at atm. pressure and under higher pressures.
W. M. Sternberg

YURZHENKO, T.I. ; PUCHIN, V.A.

Dilatometric study of polymerization in emulsions. Zav.lab.21
no.2:205-207 '55. (MLRA 8:6)

1. L'vovskiy politekhnicheskiy institut.
(Emulsions) (Polymers and polymerization)

Chem. & Ind., V. 15,

5-21-7
mf

B. T. R.
Vol. 3 No. 3
March 1954

Chemistry - Organic.

3037 Characteristics of Initiating Reaction by Tertiary Hydrogen Peroxide During Emulsion Polymerization. (Rus.) Stan. I. I. Birzhenko, V. A. Puchin, and K. S. Grigor'eva. *Doklady Akademii Nauk SSSR*, v. 92, no. 1, Sept. 1, 1953, p. 97-100.

Explains specific role of an aqueous-emulsion medium in initiation of polymerization of unsaturated compounds. Tables, graphs, 5 ref.

PUCHIN, V. A.

USSR/Chemistry - Polymerization 1 Sep 53

"The Characteristics of the Initiating Action of
Tertiary Hydroperoxides in Emulsion Polymerization,"
T. I. Yurzhenko, V. A. Puchin, and K. S. Grigor'yeva,
Lvov Polytech Inst

DAN SSSR, Vol 92, No 1, pp 97-100

Studied the specific role of water as an emulsion
medium in the initiating process in the polymerization
of unsatd compds in the heterogeneous systems contg
one of four tertiary hydroperoxides: ter-butyl hydro-
peroxide, phenylisopropyl hydroperoxide, 1,1-diphenyl-
ethane hydroperoxide, or triphenylmethyl

274TL1

hydroperoxide and compared results with those
observed in the presence of benzoyl peroxide and
or potassium persulfate. Presented by Acad A. Ye.
Arbuzov 2 Jul 53.

660C9

53300

Sov/81-59-8-28442

Translation from: Referativnyy zhurnal. Khimiya, 1959, Nr 8, p 408 (USSR)

AUTHORS: Yurzhenko, T.I., Puchin, V.A.

TITLE: The Problem of the Development of a Technical Method for Obtaining
1,1-Diphenylethane and Its Hydroperoxide

PERIODICAL: Nauchn. zap. Lvovsk. politekhn. in-ta, 1957, Nr 62, pp 333 - 351

ABSTRACT: For obtaining 1,1-diphenylethane (I), which is the initial product in the synthesis of the hydroperoxide of I (II), the condensation of styrene (III) with benzene (IV) in the presence of concentrated H_2SO_4 (V) as catalyst was used. A large part of IV was poured into the reactor and V was added to it. Then a mixture of the remaining IV with III was added under vigorous mixing and the mixing was continued for another 1 - 2 hours. I was separated by the neutralization of the organic layer by anhydrous Na_2CO_3 and distillation. The effects of the ratios of III to V; III to IV, the rate of adding the mixture of III and IV, the reaction temperature and the concentration of H_2SO_4 on the yield of I, were investigated. The best yields of I (75 - 80%) are obtained at the ratio of IV : III = 7 : 1, the application of V as a catalyst, the ratio III : V = 100 : 35, the time of adding the

Card 1/2

660C9
SOV/81-59-8-28442

The Problem of the Development of a Technical Method for Obtaining 1,1-Diphenylethane and Its Hydroperoxide

mixture of III and IV = 3 hours and the reaction temperature 10 - 30°C. The oxidation of I to II was carried out by passing air through I in the presence of 0.5% of pure III and 0.05% NaOH at 95 - 100°C. Under these conditions 32 - 35% of II is formed within 25 - 30 hours. The II being formed, crystallized out during standing of the cooled solution in the course of 2 - 3 days, in which case about 64% of II crystallized out. After washing of the mother liquor with a 0.5%-solution of NaOH the content of II in it is ~13%, and it can be used for further oxidation.

L. Makarova

Card 2/2

PUCHIN, V. A.

C. A. V-48
June 10, 1954
Synthetic Resins
and Plastics

Peculiarities of the initiating action of tertiary hydroperoxides in the emulsion polymerization. T. I. Yurzhenko.
V. A. Puchin and E. S. Grigor'eva (Lvov Polytech. Inst.).
Doklady Akad. Nauk S.S.R. 92, 97-100 (1953); cf. ibid.
74, No. 1 (1950); C.A. 45, 2767a.—The initiating activity of tert-butyl hydroperoxide (I), phenylisopropyl hydroperoxide (II), 1,1-diphenylethyl hydroperoxide (III), and triphenylmethyl hydroperoxide (IV), in emulsions of styrene in H₂O in the presence of Na butylnaphthalenesulfonate emulsifier and Na₂CO₃ at 40°, 50° and 60°, can be given by the expression: $dx/dt = K(a - x)^{3/2}$, where a is the initial amt. of monomer in moles per l., x is the amt. of monomer reacting in time t (min.), and K is the polymerization rate const. The order of activity is I, K persulfate, II, III, Bz₂O₂. Thus the tertiary hydroperoxides are disposed in an order reverse from that of ease of their thermal decompn. and their activity in polymerizations in the condensed phase. The mol. wt. of the resulting polymers rises with increase rate of polymerization when tertiary hydroperoxides are used as initiators and tert-butyl deriv. gave a higher mol. wt. product than 1,1-diphenylethyl hydroperoxide. If V_0 is the rate of initiation of polymerization given in moles per l. of emulsion, and V_t is the total rate of polymerization, and P is the avg. degree of polymerization, their relationship is given by: $V_0 = V_t/P$. The rate of initiation varies from the total polymerization rate. Thus, I shows a smaller initiation and greater total polymerization rate than does III. The results may be explained by different distribution III. The authors consider that III is present in two phases of the emulsion, whereas I is present in one phase. V. A. Yurzhenko
1

28

3079* Initiating Activity of Tertiary Hydroperoxides and
Their Influence on Degree of Polymerization. (In Russian.)
T. I. Yurzhenko, V. A. Puchin, and K. S. Grigor'eva. *Doklady Akademii Nauk SSSR* (Reports of the Academy of Sciences of the USSR), new ser., v. 75, Dec. 1, 1950, p. 547-550.
Presents results of experimental investigation of effects of several tertiary hydroperoxides on initiation of polymerization of styrene. Results are tabulated, charted, and discussed.

AMSLA METALLURGICAL LITERATURE CLASSIFICATION

EXTRACTS INDEX

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

YURZHENKO, T.I.; PUCHIN, V.A.; GRIGOR'YEVA, K.S.; ARBUZOV, A.E., akademik.

Peculiarities of the initiating action of tertiary hydrogen peroxides during emulsion polymerization. Dokl.AN SSSR 92 no.1:97-100 S '53. (MLRA 6:8)

1. Akademiya nauk SSSR (for Arbuzov). 2. L'vovskiy politekhnicheskiy institut (for Yurzhenko, Puchin and Grigor'yeva).
(Polymers and polymerization) (Peroxides)

53830

1203, 1234, 1372

21083
S/079/61/031/003/006/013
B119/B207

AUTHORS: Sergeyeva, A. N., Puchin, V. A., and Mikhalevich, K. N.

TITLE: Redox reactions of tertiary hydroperoxides with complex salts of molybdenum

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 3, 1961, 871-874

TEXT: B. A. Dolgoplosk et al. (Ref. 1: Issledovaniya v oblasti polimerizatsii Tr. VNIISK(1948)) were the first to discover the high effectiveness of redox systems; they used H_2O_2 and diazo aminobenzene as oxidizing agents, and various monosaccharides as reducing agents. A great number of these systems were used in the production of high-polymer materials. The present study deals with the redox reaction rates of tertiary hydroperoxides with molybdenum complex salts. The oxidizing agents used for this investigation were the following tertiary hydroperoxides: $(CH_3)_3COOH$ (I), $C_6H_5(CH_3)_2COOH$ (II), and $(C_6H_5)_2CH_3COOH$ (III) (owing to their essentially varying solubility in water). The characteristic feature of the molybdenum complex salts

Gard 1/2

21083

Redox reactions ...

S/079/61/031/003/006/013
B118/B207

✓

$K_4[Mo(OH)_4(CN)_6] \cdot 6H_2O(1)$ and $K_3[MoS(OH)(CN)_4(H_2O)_2] \cdot 2H_2O(2)$ used as reducing agents is their dazzling color (blue and violet, respectively). In the course of the redox reaction, the color intensity decreases gradually, which permits to observe the course of polymerization. The redox systems consisting of these complex salts and the above hydroperoxides may be used for initiating low-temperature polymerization. There are 6 figures and 8 references: 6 Soviet-bloc and 2 non-Soviet-bloc. The reference to the English-language publication reads as follows: M. Milas, D. Surgenor, J. Am. Chem. Soc., 68, 205 (1946).

ASSOCIATION: L'vovskiy politekhnicheskiy institut (L'vov Polytechnic Institute)

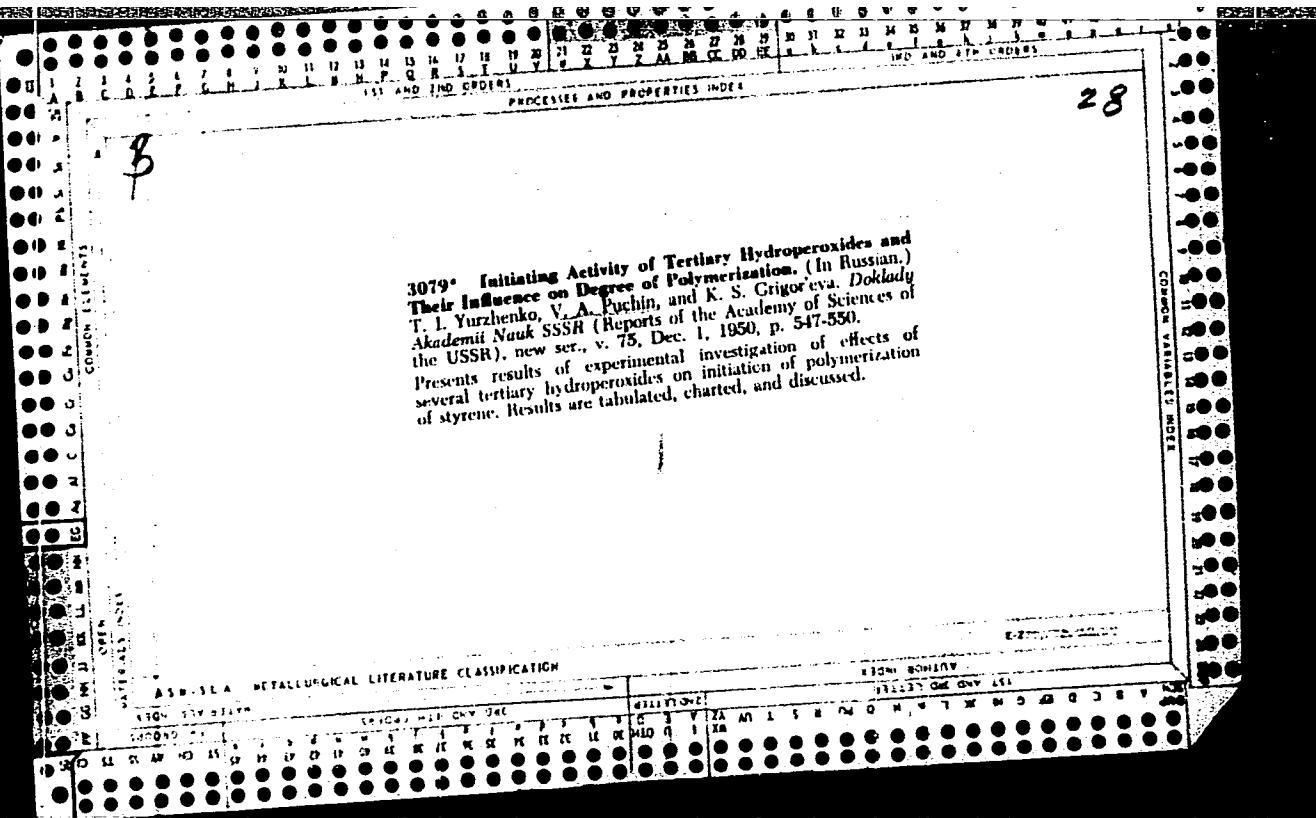
SUBMITTED: October 16, 1959

Card 2/2

PUCHKOV, G.G.

Vertical electric wounding as part of a combined geomorphological surveying and core drilling method for purposes of geological mapping. Geol. i geofiz. 10:115-119 '60. (MIRA 14:2)

1. Institut geologii i geofiziki Sibirskego otdeleniya AN SSSR,
Novosibirsk.
(Geology—Maps) (Electric prospecting)

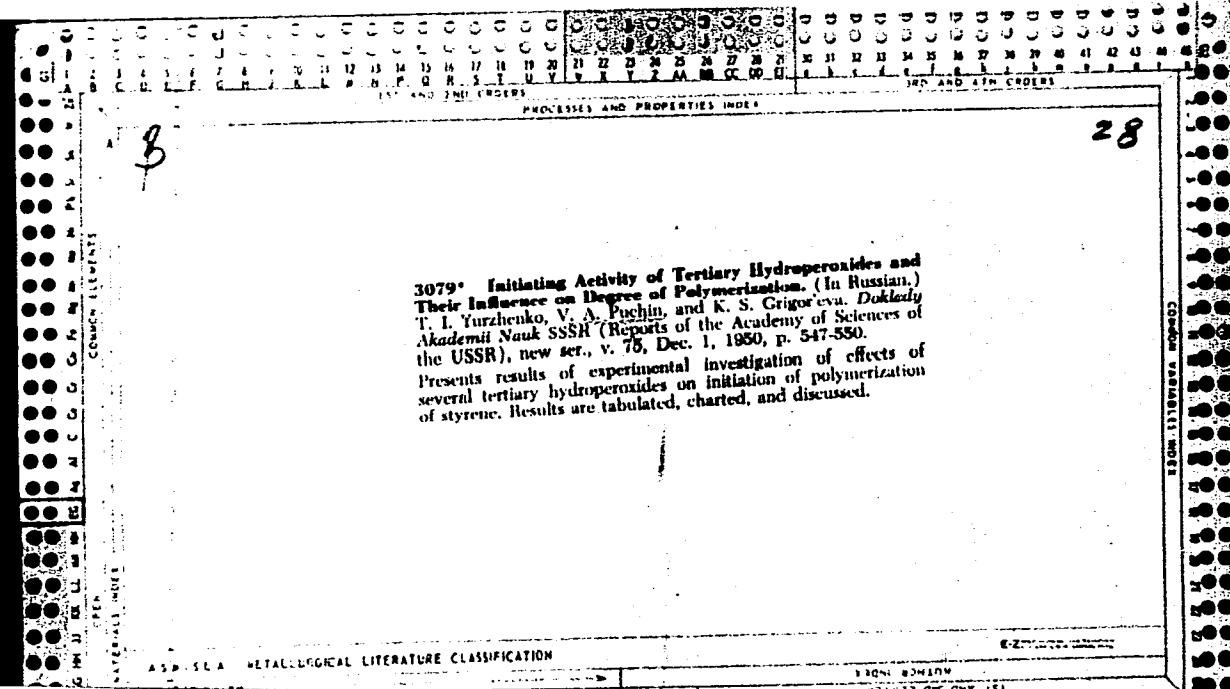


YERZHENKO, T.I.; PUCHIN, V.A.; GOLOKHVASTOVA, V.S.

Oxidation-reduction polymerization of acrylonitrile in the
presence of organic hydroperoxides. Dokl. LPI 5 no. 1/2:
48-54 '63. (NIRA 17:6)

PUCHIN, V.A.

T.I. YURZHENKO " Initiating Activity of Tertiary Hydroperoxides and Their Influence on Degrees of Polymerization"



PUCHINSKAYA, L.M.

Local electroencephalographic reactions to light in human subjects.
Biul. eksp. biol. i med. 50 no. 11:3-8 N '60. (MIRA 13:12)

1. Iz laboratorii elektrofiziologii (rukoveditel' - chlen-korrespondent
AMN SSSR prof. V.S. Rusinov) Instituta neyrokhirurgii imeni akademika
N.N. Burdenko (dir. - deystvitel'nyy chlen AMN SSSR B.G. Yegorov)
AMN SSSR, Moskva.

(LIGHT...PHYSIOLOGICAL EFFECT)
(ELECTROENCEPHALOGRAPHY)

PUCHINSKAYA, L.M.

Local changes in electroencephalograms in man in the presence of successive optic images. Biul. eksp. biol. i med. 52 no.10:3-8 0 '61; (MIRA 15:1)

1. Iz elektrofiziologicheskoy laboratorii (zav. - chlen-korrespondent AMN SSSR prof. V.S.Rusinov) Nauchno-issledovatel'skogo ordena Trudovogo Krashnogo Znameni Instituta neyrokhirurgii imeni N.N.Burdenko (dir. - deystvitel'nyy chlen AMN SSSR B.G.Yegorov) AMN SSSR, Moskva. Predstavlena deystvitel'nym chlennom AMN SSSR B.G.Yegorovym.
(ELECTROENCEPHALOGRAPHY) (VISION)

СУХИН Ю.П., Т.М.

Local condition I reactions of the evoked potential type in
human electroencephalography in the combination of two stimuli.
Zhur. vys. nerv. deiat. 14 no. 4:577-586 Jl-Ag '64.
(MIRA 17:12)

J. Burdenko Institute of Neurosurgery, U.S.S.R. Academy of
Medical Sciences, Moscow.

UCHINSKAYA, I.V.

Correlation of the specific and nonspecific response to light in
human infants. Author. Uchinskaya, I.V. Zhur. vys. nerv. delit. 11 no.6:957-965
Ned. 1963.
(MIRA 1F 6)

I. Burdenko Institute of Neurosurgery, U.S.S.R. Academy of Medical
Sciences, Moscow.

L 42404-65

ACCESSION NR: AP5006684

S/0219/65/059/002/0007/0011 0

AUTHOR: Puchinskaya, L. M.

11
B

TITLE: Shift of the zone of manifestation of the nonspecific response in the EEG of man under normal conditions and in some focal affections of the brain

SOURCE: Byulleten' eksperimental'noy biologii i meditsiny, v. 59, no. 2, 1965,
7-11

TOPIC TAGS: electroencephalography, tumor, brain wave, cerebral affection

ABSTRACT: The nonspecific response when a human being is exposed to tactile, sound and light stimuli is the electric potential registered in the area of the vertex. EEGs were taken of normally healthy people and of patients with tumors of the brain, localized in the rear sections of the cerebral hemispheres to determine whether the nonspecific response is localized. The zone of nonspecific response manifestation in normally healthy people depends upon the condition of a given area of the cortex, which in turn is influenced by the nature of the stimulus. Repeated light stimuli provoked a shift in the direction of the primary projection field of the stimulus; nonspecific response to sound might be shifted to the zone of increased

Card 1/3

L 42404-65

ACCESSION NR: AP5006684

excitation created by rhythmic light. The shift of the nonspecific response was especially distinct for some cases of focal cerebral affection. In extracerebral tumor of the parieto-occipital area, the response was registered mainly in the occipital area, i.e. in the zone of the pathological focus. It was sometimes especially pronounced when a sound stimulus was used, or absent, in the case of light. In the case of a large intracerebral tumor of the parieto-occipital area the response was registered in the central and midfrontal areas. With a small pathological focus in the parieto-occipital area the nonspecific response was registered not only in the central areas of the cerebral hemispheres, but in the zone of pathological focus as well. The author suggests that the pathological process of an extracerebral or a limited intracerebral tumor in the parieto-occipital area can create hyperexcitation in the zone of the focus and cause manifestation of the nonspecific response in this particular area. The zone of nonspecific response manifestation in focal affections is said to be determined by the state of cortical excitation in the given area, which is the result of afferent impulses and the influence of the pathological process. The final effect of diffuse impulses coming from the nonspecific system is determined in the cerebral cortex. Orig. art. has: 3 figures.

Card 2/3

L 42404-65
ACCESSION NR: AP5006684

ASSOCIATION: Elektrofiziologicheskaya laboratoriya Nauchno-issledovatel'skogo ordena Trudovogo Krasnogo Znameni Instituta neurokhirurgii imeni N. N. Burdenko AMN SSSR, Moscow (Electrophysiological Laboratory, "Order of the Red Banner of Labor" Scientific Research Institute of Neurosurgery, Academy of Medical Sciences SSSR)

SUBMITTED: 13Oct63

ENCL: 00

SUB CODE: LS

NO REF SOV: 004

OTHER: 006

10
Card 3/3

BOLDYREVA, G.N.; BRAGINA, N.N.; PUCHINSKAYA, L.M.

Clinical electrophysiological correlation in focal lesion of
the motor analyzer on the cortical and subcortical level.
Zhur. nevr. i psikh. 55 no.1;61-66 '65. (MIRA 18:2)

1. Nauchno-issledovatel'skiy ordena Trudovogo Krasnogo Znameni
institut neirokhirurgii im. N.N. Burdenko AMN SSSR i Institut
vyshey nervnoy deyatelnosti i neyrofiziologii AN SSSR, Moskva.

HUKHINSAYA, L.M.

Changes in the zone of manifestations of nonspecific EEG response in normal persons and in patients with focal brain lesions. Biul. eksp. biol. i med. 59 no.2:7-11 F '65.

(MIRA 38:7)

I. Elektrofisiologicheskaya laboratoriya (zav. - chlen-korrespondent, AMN SSSR prof. V.S. Rusinov) Nauchno-issledovatel'skogo otdeleniya Trudovogo Krasnogo Kresta Instituta nevrokhirurgii im. N.N. Burdenko (dir. - deputat Uprug chlen AMN SSSR prof. V.V. Gregorev) AMN SSSR, Moscow.

ACCESSION NR: AR4015656

S/0081/63/000/021/0217/0217

SOURCE: RZh. Khimiya, Abs. 21Zh260

AUTHOR: Puchinyan, Ye. A.; Manukin, Z. M.

TITLE: Synthesis of a new metallocorganic compound of lead tetraallylphenyl
lead

CITED SOURCE: Tr. Tashkentsk. farmatsevt. in-ta, v. 3, 1962, 427-430

TOPIC TAGS: metallocorganic compound, tetraallylphenyl lead, partially polymerized metallocorganic compound, organic lead compound

ABSTRACT: Partially polymerized $(\rho\text{-CH}_2=\text{CHCH}_2\text{C}_6\text{H}_4)_4\text{Pb}$ (III) was synthesized by reacting $\rho\text{-CH}_2=\text{CHCH}_2\text{C}_6\text{H}_4\text{MgBr}$ (I) with PbCl_2 (II). 90 mmoles of $\rho\text{-BrC}_6\text{H}_4\text{CH}_2\text{CH}=\text{CH}_2$ (IV), followed by 30 ml of ethyl ether, were added gradually to 0.04 gram atoms of Mg (activated with I_2) in 10 ml of absolute ethyl ether; the mixture was heated for 4 hours at about 100°C, then 20 mmoles of II were added to the heated I while stirring over a period of 15 minutes; the resultant mixture was heated for 2 hours at about 100°C and dissociated with water; then 2.9 g of $\text{CH}_2=\text{CHCH}_2\text{C}_6\text{H}_5$ and 3.4 g of IV were distilled from the ethyl ether layer at 50-90°C/2 mm.

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The residue was dissolved in $\text{CH}_2\text{COCH}_2\text{COOC}_2\text{H}_5$, and the amorphous infusible III ($\text{C}_{36}\text{H}_{36}\text{Pb}$) was precipitated with ethyl ether in 41.4% yield; molecular weight 1271-1279 (monomer 675.2) by the method of Rast. F. Velichko

DATE ACQ: 09Dec63

SUB CODE: CH

ENCL: 00

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S/081/60/000/006/005/008
A006/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 6, pp. 266-267,
22459

AUTHOR: Puchiniyan, Ye.A.

TITLE: Interaction of Bismuth Trichloride With Compounds of the $(C_6H_5)_4M$
(Where M = Si, Sn, Pb) and $(C_6H_5)_nSnCl_{4-n}$ Types

PERIODICAL: Tr. Tashkentsk. farmatsevt. in-ta, 1957, Vol. 1, pp. 310-320

TEXT: In boiling R_4Sn (R = always C_6H_5) and R_4Pb in $CHCl_3$ in the presence of $BiCl_3$, R is separated; a reaction with R_4Si does not take place. After two R's in R_4Sn have been substituted by chlorine the reaction is interrupted due to a stronger bonding of R - Sn. In the reactions investigated $CHCl_3$ acts not only as a solvent but also as a halogenizing agent. In all cases $BiCl_3$ is only a catalyst. Below are listed: the quantity of $BiCl_3$ mmoles, the second component, its quantity in mmoles, the reaction product, and the yield in %: 80, R_4Sn , 20, R_3SnCl , 96, $BiCl_3$, 99.6, C_6H_6 , -; 40, R_4Pb , 10, R_2PbCl_2 , 98, $BiCl_3$, 99, R_2BiCl ,

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S/081/60/000/006/005/008
A006/A001

Interaction of Bismuth Trichloride With Compounds of the $(C_6H_5)_4M$ (Where M = Si, Sn, Pb) and $(C_6H_5)_nSnCl_{4-n}$ Types

0.2 g; 80, R_4Pb , 20 $BiCl_3$, 99.6, R_2PbCl , 47.6, R_3PbCl , 46.5; 30, R_3SnCl , 10, — $BiCl_3$, 98.4, R_2SnCl_2 , 85.3; 40 R_2SnCl_2 , 20, $BiCl_3$, 99.6, R_2SnCl_2 , 99.2, $BiCl_3$ does not react with R_3SnCl . ✓

F. Velichko

Translator's note: This is the full translation of the original Russian abstract.

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53700

29418
S/081/61/000/017/047/166
B110/B102AUTHOR: Puchinyan, Ye. A.TITLE: Reaction of titanium tetrachloride and silicon tetrachloride
with lead tetraphenyl and tin tetraphenylPERIODICAL: Referativnyy zhurnal. Khimiya, no. 17, 1961, 231, abstract
171284 (Tr. Tashkentsk. farmatsevt. in-ta, v. 2, 1960,
311 - 316)TEXT: 10 mmoles of $TiCl_4$ are gradually added to a hot solution of 10
mmoles of R_4Pb ($R = C_6H_5$) in 100 milliliters of $CHCl_3$. The mixture is
boiled for 5 hr, $CHCl_3$ and $TiCl_4$ are distilled off, and the residue is
treated with hot C_6H_6 . R_2PbCl_2 is filtered off in a yield of 30%; R_3PbCl
is separated from the solution in C_6H_6 in a yield of 64% (melting point
 $208^{\circ}C$). R_4Pb does not change if heated with 35% H_2SO_4 in $CHCl_3$ for 3 hr.
In analogy to the reaction of R_4Pb with $SiCl_4$, R_3PbCl was obtained in a

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294.18

Reaction of titanium tetrachloride...

S/081/61/00u/017/047/166
B110/B102

yield of 71% (referred to reacting SiCl_4); 80% of SiCl_4 remained unchanged. Similarly, R_3SnCl was obtained from R_4Sn and SiCl_4 in a yield of 66.6% (referred to R_4Sn); 33.3% of R_4Sn did not react. An equimolar mixture of R_4Sn and TiCl_4 is boiled in CHCl_3 for 5 hr, and treated with 25 milliliters of H_2SO_4 . R_3SnCl melting at $104 - 105^\circ\text{C}$ is separated from the organic layer in a yield of 97.4% (referred to reacting TiCl_4); 92.6% of TiCl_4 did not react. In a separate preparation, C_6H_6 is found to form as a nitration product. [Abstracter's note: Complete translation.]

Card 2/2

PUCHINSKAS, I.P., kand.med.nauk

Method for determining drug resistance in *Mycobacterium tuberculosis*
[with summary in French]. Probl.tub. 36 no.4:98-101 '58 (MIEA 11:7)

I. Iz Respublikanskogo nauchno-issledovatel'skogo tuberkuleznogo
instituta Litovskoy SSR (dir. - kand.med.nauk Yu. L. Gamperis,
zamestitel' direktora po nauchnoy chasti - prof. I.Ye. Kazakevich).
(MYCOBACTERIUM TUBERCULOSIS, effect of drugs on,
resist., determ. technic (Rus))

GRZESIK, J.; JOZKIEWICZ, S.; PUCHALIK, M.; STANOSZEK, J.

Studies on the effect of sonic and ultrasonic fields on biochemical processes. I. Effect on glucose and pyruvic acid levels in the blood and on the value of surface tension of the blood serum in guinea pigs. Acta physiol. polon. 11 no. 2:223-230 Mr-Ap '60.

1.Z Instytutu Medycyny Pracy w Przemysle Weglowym i Hutniczym w Zabrzu-Rokitnicy, Dyrektor: prof. dr B. Nowakowski; Z Zakladu Chemii Fizjologicznej Slaskiej A. M. w Zabrzu-Rokitnicy; Kierownik: doc. dr S. Jozkiewicz; Z Zakladu Fizyki Lekarskiej Slaskiej A. M. w Zabrzu-Rokitnicy, Kierownik: prof. dr M. Puchalik.

(SOUND)

(ULTRASONICS)

(BLOOD SUGAR)

(PURUVATE blood)

(BLOOD)

PUCHINSKAYA, L.M. (Moskva)

Electroretinogram in focal lesions of the brain. Vop.neurokhir.
23 no.4:62 Jl-Ag '59. (MIRA 12:10)

1. Nauchno-issledovatel'skiy ordena Trudovogo Krasnogo Znameni
institut neurokhirurgii imeni N.N.Burdenko AMN SSSR.
(ELECTRORETINOGRAPHY) (BRAIN--DISEASES)

PUCHINSKAYA, L.M.

Changes in induced potentials on the EEG in man following the combination of two indifferent stimuli. Biul. eksp. biol. i med. 57 no. 2:6-11 F '64. (MIRA 17:9)

1. Laboratoriya elektrofiziologii (zav. - chlen-korrespondent AMN SSSR prof. V.S.Rusinov) Instituta neyrokhirurgii imeni N.N.Burdenko (dir. - deystvital'nyy chlen AMN SSSR prof. B.G.Yegorov) AMN SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR B.G.Yegorovym.

PUCHINSKIY, M.Ya., kand. filosofskikh nauk, dotsent;
KUZNETSOVA, R.G., kand. yuridicheskikh nauk

Progressive development of Soviet democracy as an objective
characteristic of Soviet society. Trudy MIIGAIK no.43:21-40
'60.

(Communism)

PUCHINSKIY, Yu. [Puchynski, IU.]

I.M.Kramskoi; on the 125th anniversary of his birth. Rab.i sial.
38 no.6:17 Je '62. (MIRA 15:8)
(Kramskoi, Ivan Nikolaevich, 1837-1887)

BAGROV, G.M.; PUCHIN'YAN, I.Ye.

Hermetic sealing of automobile bodies. Avt.prom. 28 no.5:
13-14 My '62. (MIRA 15:5)

1. Moskovskiy avtozavod imeni Likhacheva.
(Automobiles—Bodies)

DAN, O., dr.; ANDREESCU, C., dr.; MARINOVICI, A., dr.; HUCHITA, Mariaera, dr.

Filling materials for root canals. Stomatologia (Bucur) 12
no.2:97-102 Mr-Ap'65.

1. Lucrare efectuata la Clinica de stomatologie terapeutica,
I.M.F., Bucuresti (seful clinicii: prof. A. Nass).

L 04294-67 RM
ACC NR: AP6026743

SOURCE CODE: UR/0198/66/002/005/0058/0064

AUTHOR: Karpov, N. I. (Kiev); Puchka, G. N. (Kiev)

28
B

ORG: Institute of Mechanics, AN UkrSSR (Institut mekhaniki AN UkrSSR)

TITLE: The oscillations of a cylindrical shell reinforced by longitudinal and trans-
verse members

34

SOURCE: Prikladnaya mekhanika, v. 2, no. 5, 1966, 58-64

TOPIC TAGS: cylindric shell, shell theory, reinforced shell structure, Fourier series

ABSTRACT: Conventional methods of calculating the oscillations of reinforced shells with the consideration of the discrete positioning of the reinforcing members involve infinite systems of algebraic equations. The analysis of such equations is extremely complex and cumbersome, moreover, the frequency equation is rendered in the form of an infinite determinant, the convergence of which has as yet not been established. It is conventionally assumed that in the n -th approximation a n -th order determinant, rather than the infinite determinant, can be obtained by "cutting" the initial determinant. Unfortunately, this results in erroneous conclusions as to the nature of the spectrum of the frequencies and of the effects of the reinforcing members upon the frequency values. The author proposes a method which takes the discrete positioning of the transverse reinforcing members into consideration. Systems of equations for the os-

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L 04294-67

ACC NR: AP6026743

cillation of the shell, for the vibration of the longitudinal and transverse members are developed, and the conditions of codeformation are defined. Considering the physical nature of the problem, the functions defining the deformed state of the shell are represented by a trigonometric Fourier series. As a result, the continuous system (the reinforced shell) is replaced by a discretely continuous system with a given number of degrees of freedom in the transverse direction and an infinitely large number of degrees of freedom in the longitudinal direction. Such a substitution does not substantially change the low natural frequencies. Using operational calculus based on transforms with finite limits, we arrive at two conditions which must be satisfied to obtain a non-trivial solution, i. e., the frequency equation in a generalized form. In final analysis, it appears that (1) the frequency spectrum of a reinforced shell is discrete, and (2) the frequency spectrum of a shell reinforced by longitudinal and transverse members always contains some natural frequency of a shell reinforced by longitudinal members if and only if a) the spectrum of natural oscillations of the transverse members contains this frequency, and b) if the transverse members are located in nodules of natural oscillations of the hull (reinforced by longitudinal members only) that correspond to this frequency. Orig. art. has: 16 formulas.

SUB CODE: 13,20/ SUBM DATE: 16Sep65/ ORIG REF: 003

Caro 2/2

"APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001343520008-5

PUCHKIN, A.; MIRONYCHEV, V. (g.Salavat, Bashkirskaya ASSR)

Public inspector. Sov. profsoiuzy 7 no.11:49-50. Je '59.
(MIRA 12:9)

(Salavat--Public officers)

APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001343520008-5"

IVANOVA, V.A., kand.tekhn.nauk; STEPANOV, A.V., kand.tekhn.nauk; VASIL'YEVA, A.V.,
inzh.; PUCHKIN, A.V., inzh.; FRIDMAN, P.A., inzh.

An accelerated method for determining the acidity and the acid number
of fresh and spent mineral oils. Teploenergetika 10 no.2:90 F '63.
(MIRA 16:2)

(Mineral oils)

POUCHKIN, N. M.

G Z E C H

Steric hindrance in organomagnesium reactions. XVII.
 Preparation of ketones by the reaction of vinyl halides with
 organomagnesium compounds. I. I. Lapkin, N. M. Puch-
 kin, and P. A. Lykov (A. M. Gor'ki State Univ., Molotov).
Sovieto Stateschische Khim. 2, 831-7 (1953); cf. *C.A.* 47,
 4361c; 48, 39401.—To the Grignard reagent from 40 g.
 bromostyrene was added with cooling 44 g. *m*-BrC₆H₄CO-
 Cl and the mixt. refluxed 1 hr., treated with 1 vol. H₂O,
 heated 1 hr., and treated with HCl; the sep'd. org. layer
 yielded 20% *m*-(2,4,6-Me₃C₆H₂CO)C₆H₄Br, b.p. 103-200°, m.
 82-72 (from petr. ether); with 2 moles of RMgX the yield
 of the ketone rose to 65%. Similarly C₆H₅MgBr (in Et₂O-
 MePh) gave 18% *m*-(C₆H₅CO)C₆H₄Br, b.p. 210-12°, m. 95-
 6°. Addn. of *o*-MeC₆H₄MgBr to an equimolar amt. of *m*-
 BrC₆H₄COCl gave 40% *m*-(2-MeC₆H₄CO)C₆H₄Br, b.p. 100-
 2°, d₄ 1.4130, n_D²⁰ 1.6168. Similar reaction with 1-C₆H₅-
 MgBr gave 54% *m*-(1-C₆H₅CO)C₆H₄Br, b.p. 228-41°, m. 90-
 1°; picrate, m. 113° (from EtOH). Addn. of *p*-MeC₆H₄-
 MgBr to *m*-BrC₆H₄COCl gave 44% *m*-(*p*-MeC₆H₄CO)C₆H₄-
 Br, m. 109-10°, and a little (*p*-MeC₆H₄)₂, m. 120-1°. In
 this way PhMgBr gave 49% *m*-bromobenzophenone, b.p. 185-
 7°, m. 78°. Addn. of *o*-ClC₆H₄COCl to 2 moles 2,4,6-Me₃-
 C₆H₃MgBr gave 60% *o*-(2,4,6-C₆H₃CO)C₆H₄Cl, b.p. 197-8°,
 m. 100-1°. Addn. of *o*-MeC₆H₄MgBr to 1 mole *o*-ClC₆H₄-
 COCl gave 47% *o*-(*o*-MeC₆H₄CO)C₆H₄Cl, b.p. 153-4°, m. 52-
 3°; similarly 1-C₆H₅MgBr gave 53% *o*-(1-C₆H₅CO)C₆H₄Cl,
 b.p. 219-21°, m. 84° (picrate, m. 93-4°); while PhMgBr
 similarly gave 50% *o*-chlorobenzophenone, b.p. 166-8°, m. 45-
 6°.

G. M. Kosolapoff

Lab. Org. Chem.

2

R/S

PUCHKO, A.S.

For our dear party. Nauka i zhittia 11 no.10:1 O '61.
(MIRA 15:1)

1. Chlen Kommunisticheskoy partii Sovetskogo Soyuza s 1919 g.
(Communist Party of the Soviet Union)

PUCHKO, A. Yu.

Puchko, A. Yu.: "The characteristics of the excreted stems of Bacillus-aceae Penicillium in the Latvian SSR. The effect of various radiations of light on the manufacture of penicillin," Izvestiya akad. nauk Latv. SSR, 1949, No 5, p. 82-103 (In Latvian, resume in Russian), - Bibliog: 7 items

SO: U-5240, 17 Dec. 53, (Letopis 'Zhurnal 'nykh Statey, No. 25, 1949).

PUCHKO, V. I.

Irrigation Canals and Flumes

Work of irrigation canals under winter conditions. Gidr. i mel. 4 no. 8, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

PUCHKO, V.I

29645

Novyy Sposob oprvesnyeniya vody myetodom vpmorazhnvaniya. Gidrotyekhnika i myelioratsiya,
1949, No3, s.46-55

SO: Letopis' No.40

"APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001343520008-5

1971-72

... regarding the quality of glassware. Leh. prom. no. 2120-22 Apr-Je '65.
(MIR: 18:10)

APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001343520008-5"

PUCHKO, V.S.

Ukrainian conference on the improvement of the quality and expansion
of the assortment of glass, porcelain, and faience goods. Leh.prom.
no.2:89 Ap-Je '65. (MIRA 18:10)

S/833/62/000/000/002/004
D034/D114

AUTHOR: Puchko, V.S., Engineer

TITLE: Experience in making heat-resistant glass pipes

SOURCE: Voprosy razvitiya stekol'noy i farforo-fayansovoy promysh-
lennosti. Ed. by F.D. Ovcharenko. Kiyev, Izd-vo AN UkrSSR,
1962, 65-69

TEXT: The production of heat-resistant glass pipes by the Buchan-
skiy stekol'nyy zavod (Bucha Glass Plant) is reviewed. No 13-8 (No 13-v)
low-alkali glass is suitable for making glass pipes and has the following
composition (in %): SiO₂ - 63.90, Al₂O₃ - 15.56, CaO - 12.64, MgO - 4.16,
SO₃ - 0.20, F' - 2.20, and Na₂O - 2.26. It is melted in a continuous tank
at a temperature of 1490 - 1500°C with a horseshoe-shaped motion of flame
with a flue passage. The plant produces thick-walled, heat-resistant pipes,
 $\frac{1}{2}$ " to $1\frac{1}{2}$ " in diameter. The production of 45- to 50-mm diameter pipes is
being studied. Production of special 18- to 19-mm diameter pipes for glass-

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